

WHAT IS CLAIMED IS:

1 1. A biopsy localization device comprising:
2 a bioabsorbable element in a pre-delivery state prior to its delivery to a soft
3 tissue biopsy site of a patient; and
4 said bioabsorbable element being of a material which is in a post-delivery
5 state at the biopsy site, the bioabsorbable element being palpably harder than the
6 surrounding soft tissue at the biopsy site when in the post-delivery state.

1 2. The device according to claim 1 further comprising a delivery
2 device for delivering the bioabsorbable element in the predelivery state to a soft tissue
3 biopsy site.

1 3. The device according to claim 1 wherein the bioabsorbable element
2 is of a different hardness in the post-delivery state as in the pre-delivery state.

1 4. The device according to claim 1 wherein the bioabsorbable element
2 has a hardness of at least about 1.5 times as hard as breast tissue in the post-delivery state.

1 5. The device according to claim 1 wherein the bioabsorbable element
2 swells about 50 to 1500 percent from the pre-delivery state to the post-delivery state when
3 placed in contact with an aqueous liquid.

1 6. The device according to claim 1 wherein the bioabsorbable element
2 has a first shape in the pre-delivery state and a second shape in the post-delivery state.

1 7. The device according to claim 1 wherein the bioabsorbable element
2 has one consistency in the pre-delivery state and a different consistency in the post-
3 delivery state.

1 8. The device according to claim 1 wherein the bioabsorbable element
2 has a longest dimension of at least about 0.5cm when in the post-delivery state.

1 9. The device according to claim 1 wherein the bioabsorbable element
2 made of collagen.

1 10. The device according to claim 1 wherein the bioabsorbable element
2 comprises a therapeutic agent.

1 11. The device according to claim 10 wherein the therapeutic agent
2 comprises at least a chosen one of a chemotherapeutic agent, a radiation agent and a gene
3 therapy agent.

1 12. The device according to claim 1 wherein the bioabsorbable element
2 comprises reservoir means for subsequently receiving a therapeutic agent.

1 13. The device according to claim 12 wherein the reservoir means
2 comprises reservoir means for receiving a chemotherapy agent.

1 14. The device according to claim 1 wherein the bioabsorbable element
2 comprises a hemostatic agent.

1 15. The device according to claim 1 wherein the bioabsorbable element
2 comprises at least one of the following materials: polyactic and polyglycolic acids,
3 polyorthoesters, resorbable silicones and urethanes, lipids, collagens, polysaccharides,
4 starches, ceramics, polyamino acids, proteins, hydrogels and other gels, gelatins,
5 polymers and cellulose .

1 16. The device according to claim 1 wherein the bioabsorbable element
2 changes from the pre-delivery state to the post-delivery state upon contact with an
3 aqueous environment.

1 17. The device according to claim 1 wherein the bioabsorbable element
2 is physically different in its pre-delivery state than in its post-delivery state.

1 18. The device according to claim 1 wherein the bioabsorbable element
2 comprises a bioabsorbable filament.

1 19. The device according to claim 1 further comprising a marker
2 element located generally centrally within the bioabsorbable element.

1 20. The device according to claim 19 wherein the marker element is a
2 radiopaque marker element.

1 21. The device according to claim 19 wherein said marker element
2 comprises a chosen one of a permanent marker element and a temporary marker element.

1 22. A biopsy localization method comprising:
2 taking a tissue sample from a biopsy site within a patient;
3 positioning a bioabsorbable element at the biopsy site at the time of the
4 taking of the tissue sample;
5 testing the tissue sample; and
6 if the testing indicates a need to do so relocating the biopsy site by finding
7 the bioabsorbable element.

1 23. The method according to claim 22 wherein the positioning step is
2 carried out using said bioabsorbable element and a radiopaque marker.

1 24. The method according to claim 23 wherein the relocating step is
2 carried out using a radiographic technique.

1 25. The method according to claim 23 wherein the positioning step is
2 carried out using a chosen one of a permanent radiopaque marker and a temporary
3 radiopaque marker.

1 26. The method according to claim 22 wherein the relocating step is
2 carried out by at least one of:
3 palpation of the patient to feel the bioabsorbable element;
4 locating inflammation at the biopsy site caused by the bioabsorbable
5 element;
6 following a bioabsorbable thread, the thread extending from the patient's
7 skin to the bioabsorbable element; and
8 remotely visualizing the bioabsorbable element.

1 27. The method according to claim 26 wherein the remotely
2 visualizing step is carried out by at least a chosen one of ultrasound, MRI and
3 mammography.

1 28. The method according to claim 22 wherein the tissue sample taking
2 step is carried out using a needle biopsy technique.

1 29. The method according to claim 22 wherein the tissue sample taking
2 step is carried out using a surgical excisional biopsy technique.

1 30. The method according to claim 22 wherein the tissue sample taking
2 step is carried out within a soft tissue.

1 31. The method according to claim 22 further comprising the step of
2 selecting the bioabsorbable element so that after positioning at the target site, the
3 bioabsorbable element has a hardness of at least about 1.5 times as hard as the
4 surrounding tissue.

1 32. The method according to claim 22 further comprising selecting a
2 hemostatic bioabsorbable element and providing hemostasis at the target site by the
3 hemostatic bioabsorbable element.

1 33. The method according to claim 32 wherein the hemostasis
2 providing step is provided by at least one of mechanical or chemical hemostatic
3 techniques.

1 34. The method according to claim 32 further comprising the step of
2 effectively preventing blood from contacting the hemostatic bioabsorbable element until
3 the hemostatic bioabsorbable element is positioned at the target site.

1 35. The method according to claim 34 wherein the effectively
2 preventing step is carried out using a hemostatic bioabsorbable element having a non-
3 hemostatic degradable outer layer so the hemostasis providing step is a time-delayed
4 hemostasis providing step.

1 36. The method according to claim 34 wherein the effectively
2 preventing step includes the step of physically isolating the hemostatic bioabsorbable
3 element from contact with blood until it is at the biopsy site.

1 37. The method according to claim 22 wherein the bioabsorbable
2 element positioning step is carried out by at least one of:
3 injecting a flowable bioabsorbable element through a hollow member;
4 pushing a nonflowable bioabsorbable element through a hollow member;
5 and
6 guiding a solid bioabsorbable element to the target site.

1 38. The method according to claim 37 wherein the flowable
2 bioabsorbable element injecting step is carried out using a biopsy needle.

1 39. The method according to claim 22 further comprising the step of
2 changing the bioabsorbable element from a pre-delivery state prior to the positioning step
3 to a post-delivery state after the positioning step.

1 40. The method according to claim 39 wherein the changing step is
2 carried out by at least one of the following: hydration, changing temperature, electrical
3 stimulation, magnetic stimulation, chemical reaction with a first additional material,
4 physical interaction with a second additional material, ionization, absorption and
5 adsorption.

1 41. The method according to claim 27 further comprising the step of
2 placing a marker element at a generally central location within the bioabsorbable element
3 at the target site.

1 42. The method according to claim 41 wherein the placing step takes
2 place simultaneously with the positioning step.

1 43. The method according to claim 41 wherein the placing step is
2 carried out using a radiopaque marker element.

1 44. The method according to claim 41 wherein the biopsy site
2 relocating step comprises the step of remotely visualizing the marker element.

1 45. A medical treatment method comprising:
2 taking a tissue sample from a biopsy site within a patient;
3 positioning a bioabsorbable element at the biopsy site at the time of the
4 taking of the tissue sample;
5 testing the tissue sample;
6 if the testing indicates a need to do so, and medically treating the biopsy
7 site.

1 46. The method according to claim 45 wherein the medically treating
2 step comprises activating an agent carried by the bioabsorbable element.

1 47. The method according to claim 46 wherein the activating step is
2 carried out by at least one of:
3 injecting a radiation-emitting element at the vicinity of the target site;
4 externally irradiating the target site; and
5 providing a triggering substance to the agent.

1 48. The method according to claim 45 wherein the medically treating
2 step comprises delivering a therapeutic agent to the target site.

1 49. The method according to claim 48 wherein the delivering step is
2 carried out using at least one of:
3 a chemotherapy agent;
4 a radiation-emitting element;
5 thermal energy;
6 ionization energy;
7 gene therapy;
8 vector therapy;
9 electrical therapy;
10 vibrational therapy; and
11 anti-angiogenesis.

1 50. The method according to claim 45 further comprising the step of
2 relocating the biopsy by finding the bioabsorbable element.

1 51. The method according to claim 50 wherein the relocating step is
2 carried out prior to the medically treating step.

1 52. The method according to claim 51 wherein the medical treating
2 step comprises removal of tissue.